AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A compound for producing a heat-ray cutoff film, comprising:

a dispersion sol including conductive nanoparticles uniformly dispersed in a solvent formed essentially of an amphiphilic material and an acid that adjusts surface charges of the conductive nanoparticles,

wherein the solvent with the conductive nanoparticles dispersed therein has amphiphilic properties, and the acid includes an organic acid, an inorganic acid, or a polymeric acid, the organic acid including an acetic acid or a glacial acetic acid, and the inorganic acid including a hydrochloric acid, a nitric acid, a phosphoric acid, or a sulfuric acid.

2. (Previously Presented) The compound according to claim 1, wherein the conductive nanoparticles include at least one of ATO, ITO, and AZO.

3. (Previously Presented) The compound according to claim 1, wherein the conductive nanoparticles have diameters under 200 nm, and the solvent is present in a range of about 20 to 99 wt % relative to the dispersion sol.

4. (Previously Presented) The compound according to claim 3, wherein the solvent includes ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol monopropyl ether, or ethylene glycol monobutyl ether.

5. (Cancelled)

6. (Currently Amended) The compound according to claim [[5]]1, wherein the conductive nanoparticles are ATO nanoparticles containing about 5 to 20 wt % Sb, and the acid is present in a range of about $5x10^{-4}$ to $3.5x10^{-3}$ g.

7. (Previously Presented) The compound according to claim 1, which further comprises a dispersing agent for stabilizing the conductive nanoparticles.

8. (Previously Presented) The compound according to claim 7, wherein the dispersing agent is present in a range of about 1 to 30 wt % relative to the dispersion sol, the dispersing agent including a dispersing agent containing an amine radical, a dispersing agent containing an acid radical, or a neutral dispersing agent.

9. (Previously Presented) The compound according to claim 7, which further comprises a resin binder selected from a non-aqueous resin binder, an aqueous resin binder, or an alcoholic resin binder.

10. (Previously Presented) The compound according to claim 9, wherein the resin binder is present in a range of about 1 to 95 wt % relative to the compound.

11. (Previously Presented) The compound according to claim 10, wherein:

the aqueous resin binder is selected from a water-soluble alkyd, a polyvinylalcohol, a polybutylalcohol, an acrylic, an acrylylstyrene, or a super-acid vinyl;

the alcoholic resin binder is selected from a polyvinylbutyral or a polyvinylacetal; and

the non-aqueous resin binder is a heat-hardening resin binder or an ultraviolet-hardening resin binder, the heat-hardening resin binder selected from an acrylic, a polycarbonate, a polychloride vinyl, an urethane, a melamine, an alkyd, a polyester, or an epoxy, and the ultraviolet-hardening resin binder selected from an epoxy acrylylate, a polyether acrylyate, a polyester acrylylate, or an urethane-metamorphosed acrylylate.

12. (Previously Presented) The compound according to claim 9, wherein the conductive nanoparticles have diameters under 200 nm, and the solvent is present in a range of about 20 to 99 wt % relative to the dispersion sol.

13. (Previously Presented) The compound according to claim 12, wherein the solvent includes ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol monopropyl ether, or ethylene glycol monobutyl ether.

14. (Previously Presented) The compound according to claim 12, wherein the conductive nanoparticles are ATO nanoparticles containing about 5 to 20 wt % Sb, and the acid is present in a range of about $5x10^{-4}$ to $3.5x10^{-3}$ g.

15. (Previously Presented) The compound according to claim 12, wherein the dispersing agent is present in a range of about 1 to 30 wt % relative to the dispersion sol, the dispersing agent including a dispersing agent containing an amine radical, a dispersing agent containing an acid radical, or a neutral dispersing agent.

16. (Currently Amended) A method of forming a compound for producing a

heat-ray cutoff film, comprising:

uniformly dispersing conductive nanoparticles in a solvent to form a dispersion sol, the solvent formed essentially of an amphiphilic material; and

adjusting surface charges of the conductive nanoparticles with an acid,

wherein the solvent with the conductive nanoparticles dispersed therein has amphiphilic properties, and the acid includes an organic acid, an inorganic acid, or a polymeric acid, the organic acid including an acetic acid or a glacial acetic acid, and the inorganic acid including a hydrochloric acid, a nitric acid, a phosphoric acid, or a sulfuric acid.

17. (Previously Presented) The method according to claim 16, wherein the conductive nanoparticles have diameters under 200 nm, and the solvent is present in a range of about 20 to 99 wt % relative to the dispersion sol.

18. (Currently Amended) The method according to claim 16, wherein the conductive nanoparticles are dispersed in the solvent by means of a dispersing agent ~~and surface charges of the conductive nanoparticles are adjusted with an acid~~.

19. (Previously Presented) The method according to claim 18, wherein:

the conductive nanoparticles are ATO nanoparticles containing about 5 to 20 wt % Sb;

the acid is present in a range of about $5x10^{-4}$ to $3.5x10^{-3}$ g; and

the dispersing agent is present in a range of about 1 to 30 wt % relative to the dispersion sol, the dispersing agent including a dispersing agent containing an amine radical, a dispersing agent containing an acid radical, or a neutral dispersing agent.

20. (Previously Presented) A method of forming a heat-ray cutoff film, comprising:

mixing the compound formed by the method of claim 19 with a resin binder selected from a non-aqueous resin binder, an aqueous resin binder, or an alcoholic resin binder to obtain a mixed composite; and

depositing the mixed composite on a substrate and hardening the deposited composite with a chemical ray using ultraviolet radiation, an electronic ray, or heat.

21. (Previously Presented) The method according to claim 20, wherein the resin binder is present in a range of about 1 to 95 wt % relative to the compound.

22. (Previously Presented) The method according to claim 20, wherein:

the substrate comprises one of glass, a ceramic, a plastic, a metal, and a product of these; and

the mixed composite is formed in a plastic condition at a temperature of about 50 to 500°C.

23. (Previously Presented) The method according to claim 20, wherein the substrate is a polycarbonate resin, a poly (metha) acrylylester resin, a saturated fatty acid, or a cyclo-olefin resin, the substrate hardened by ultraviolet radiation.

24. (Previously Presented) The method according to claim 23, wherein the substrate is exposed to ultraviolet radiation in the range of about 500 to 1500 mJ/cm, while the substrate is conveyed at a velocity of about 15 to 50 m/min.

25. (Original) A heat-ray cutoff film manufactured by the method as defined in claim 18.

26. (Previously Presented) A heat-ray cutoff film manufactured by the method as defined claim 19.

27. (Previously Presented) The heat-ray cutoff film according to claim 26, wherein the film has a surface resistance of 1 x 10^6 Ω·cm.

28. (Previously Presented) The heat-ray cutoff film according to claim 26, wherein the film has a thickness of less than 5 μm, a pencil hardness above 1H, a visible light transmittance above 50%, and a heat-ray cutoff rate of at least 50%.

29. (Currently Amended) A method of screening heat rays, comprising:

attaching a heat-ray cutoff film on a vessel, the heat-ray cutoff film formed from a dispersion sol including conductive nanoparticles uniformly dispersed in a solvent formed essentially of an amphiphilic material and an acid that adjusts surface charges of the conductive nanparticles,

wherein the solvent with the conductive nanoparticles dispersed therein has amphiphilic properties, and the acid includes an organic acid, an inorganic acid, or a polymeric acid, the organic acid including an acetic acid or a glacial acetic acid, and the inorganic acid including a hydrochloric acid, a nitric acid, a phosphoric acid, or a sulfuric acid.

30. (Currently Amended) A method of screening heat rays with a heat-ray cutoff film, comprising:

forming a compound including a dispersion sol with conductive nanoparticles uniformly dispersed in a solvent formed essentially of an amphiphilic material, wherein the solvent with the conductive nanoparticles dispersed therein has amphiphilic properties;

adjusting surface charges of the conductive nanoparticles with an acid;

mixing the compound with a resin binder selected from a non-aqueous resin binder, an aqueous resin binder, or an alcoholic resin binder to obtain a mixed composite;

depositing the mixed composite on a substrate and hardening the deposited composite with a chemical ray using ultraviolet radiation, an electronic ray, or heat to form the heat-ray cutoff film; and

coating the heat-ray cutoff film on a surface of a vessel,

wherein the acid includes an organic acid, an inorganic acid, or a polymeric acid, the organic acid including an acetic acid or a glacial acetic acid, and the inorganic acid including a hydrochloric acid, a nitric acid, a phosphoric acid, or a sulfuric acid.

31. (Previously Presented) The method according to claim 30, wherein the conductive nanoparticles have diameters under 200 nm, and the solvent is present in a range of about 20 to 99 wt % relative to the dispersion sol.

32. (Currently Amended) The method according to claim 30, wherein the conductive nanoparticles are dispersed in the solvent by means of a dispersing agent ~~and surface charges of the conductive nanoparticles are adjusted with an acid~~.

33. (Previously Presented) The method according to claim 32, wherein:

the conductive nanoparticles are ATO nanoparticles containing about 5 to 20 wt % Sb;

the acid is present in a range of about $5x10^{-4}$ to $3.5x10^{-3}$ g; and

the dispersing agent is present in a range of about 1 to 30 wt % relative to the dispersion sol, the dispersing agent including a dispersing agent containing an amine radical, a dispersing agent containing an acid radical, or a neutral dispersing agent.

34. (Previously Presented) The method according to claim 30, wherein the resin binder is present in a range of about 1 to 95 wt % relative to the compound.

35. (Previously Presented) The method according to claim 30, wherein the substrate is a polycarbonate resin, a poly (metha) acrylylester resin, a saturated fatty acid, or a cyclo-olefin resin, the substrate hardened by ultraviolet radiation.

36. (Original) The method according to claim 30, wherein the vessel is made of a metal, a ceramic, or a plastic, containing drinking waters or foods.

37. (Previously Presented) The compound according to claim 1, wherein the conductive nanoparticles are present in an amount of at least 20 wt% relative to the dispersion sol.

38. (Previously Presented) The method according to claim 16, wherein the conductive nanoparticles are present in an amount of at least 20 wt% relative to the dispersion sol.

39. (Previously Presented) The method according to claim 20, wherein the conductive nanoparticles are present in an amount of at least 20 wt% relative to the dispersion sol.

40. (Previously Presented) The heat-ray cutoff film according to claim 25, wherein the conductive nanoparticles are present in an amount of at least 20 wt% relative to the dispersion sol.

41. (Previously Presented) The heat-ray cutoff according to claim 26, wherein the conductive nanoparticles are present in an amount of at least 20 wt% relative to the dispersion sol.

42. (Previously Presented) The method according to claim 29, wherein the conductive nanoparticles are present in an amount of at least 20 wt% relative to the dispersion sol.

43. (Previously Presented) The method according to claim 30, wherein the conductive nanoparticles are present in an amount of at least 20 wt% relative to the dispersion sol.